

Amendments to Claims

Claims 1-16. (Cancelled).

17. (New) A system, comprising:

a set of modules each capable of communication via a set of network communication links and each having a clock and means for synchronizing the clock in response to messages on the network communication link and each performing a function of the system such that the functions are coordinated by a synchronized time in the clocks;

at least one communication device that enables communication among the modules via the network communication links wherein the communication device is selected in response to a physical placement of the modules in the system.

18. (New) The system of claim 17, wherein the communication device is a communication hub for the network communication links to the modules.

19. (New) The system of claim 17, wherein the communication device is a communication repeater for the network communication links to the modules.

20. (New) The system of claim 17, wherein the communication device is a communication switch for the network communication links to the modules.

21. (New) The system of claim 17, wherein one or more of the modules includes means for applying a stimulus in response to the synchronized time.

22. (New) The system of claim 17, wherein one or more of

the modules include means for obtaining a measurement and for generating a time-stamp for the measurement using the synchronized time.

23. (New) The system of claim 17, wherein one or more of the modules includes means for obtaining a measurement at a given time using the synchronized time.

24. (New) The system of claim 17, wherein one or more of the modules are connected to separate sub-nets of a communication network via a corresponding communication device.

25. (New) The system of claim 17, wherein one or more of the modules includes means for obtaining a message via the network communication links that includes an identification of a measurement and a time at which the measurement is to be obtained.

26. (New) The system of claim 17, wherein one or more of the modules includes means for obtaining a message via the network communication links that includes an identification of a stimulus and a time at which the stimulus is to be applied.

27. (New) The system of claim 17, wherein one or more of the modules includes means for obtaining a message via the network communication links that includes an identification of a measurement and a time interval during which a series of the measurements are to be obtained.

28. (New) The system of claim 17, wherein one or more of the modules includes means for obtaining a message via the network communication links that includes an

identification of a stimulus and a time interval during which the stimulus is to be applied.

29. (New) The system of claim 17, wherein one or more of the modules includes means for transferring a message via the network communication links that includes a measurement and a time at which the measurement was obtained.

30. (New) A method for coordinating a set of functions in a modular system, comprising:

- coupling each of a set of modules of the modular system to a set of network communication links;

- selecting at least one communication device for providing communication among the modules in response to a physical placement of the modules;

- synchronizing a clock in each module using messages carried on the network communication link;

- performing a function of the modular system in each module such that the functions are coordinated by a synchronized time in the clocks.

31. (New) The method of claim 30, wherein performing a function includes applying a stimulus in response to the synchronized time.

32. (New) The method of claim 30, wherein performing a function includes obtaining a measurement and generating a time-stamp for the measurement using the synchronized time.

33. (New) The method of claim 30, wherein performing a function includes obtaining a measurement at a given time using the synchronized time.

34. (New) The method of claim 30, wherein selecting a communication device includes coupling the modules to separate sub-nets of a communication network via a corresponding communication device.

35. (New) The method of claim 30, further comprising transferring a message via the communication device that includes an identification of a measurement and a time at which the measurement is to be obtained.

36. (New) The method of claim 30, further comprising transferring a message via the communication device that includes an identification of a stimulus and a time at which the stimulus is to be applied.

37. (New) The method of claim 30, further comprising transferring a message via the communication device that includes an identification of a measurement and a time interval during which a series of the measurements are to be obtained.

38. (New) The method of claim 30, further comprising transferring a message via the communication device that includes an identification of a stimulus and a time interval during which the stimulus is to be applied.

39. (New) The method of claim 30, further comprising transferring a message via the communication device that includes a measurement and a time at which the measurement was obtained.